

AMENDMENTS TO THE SPECIFICATION

Please replace Paragraphs [0008], [0066], [0069], [0072], and [0073] with the following paragraph rewritten in amendment format:

[0008] A device and system for providing substantially simultaneous ignition to a plurality of combustors. Generally, a plurality of combustors may be provided in a selected system, such as a gas powered turbine. Each of the combustors combusts a selected amount of fuel in an oxidizer to produce the expanding gases to power the gas powered turbine. The system allows a substantially single spark, preburner, or chamber to combust a selected amount of fuel, which then propagates along a selected line to provide a combustion wave to a selected combustor. The preburner allows for the formation of a wave, which as it propagates becomes a combustion wave, such that a selected fuel and oxidizer provided at a point in the line will be ignited by the combustion wave. Therefore, a plurality of pilot flames may be produced by a single combustion chamber.

[0066] The ignition line 22 may also generally include a selected volume of the fuel and the oxidizer, along which the detonation wave may propagate to the pilot port 62 (Figure 3). In addition, the ignition line 22 may include a plurality of annuli. A first annulus may be an oxidizer annulus 92. The oxidizer annulus may be provided with a source of oxidizer through an oxidizer annulus inlet 94. Also a fuel annulus 96 may be provided near the oxidizer annulus 92 and provided with a source of fuel through a fuel annulus inlet 98. The fuel and the oxidizer provided through the annuli 96, 98 92, respectively, provide the oxidizer and fuel source to keep a pilot lit at the pilot port 62 for a selected period of time. The wave formed from the combustion of

the oxidizer and the fuel from the combustion chamber 82 propagates down a center annulus 100 in the ~~transmission~~ ignition line 22. Therefore, the detonation wave is provided down a source that is substantially near the sources of the fuel and oxidizer that will be combusted by detonation wave to form the pilot.

[0069] The fuel and the oxidizer may be transmitted down the annuli 92, 96 prior to the detonation of the mixture in the combustion chamber 82. Therefore, as soon as the detonation wave reaches the pilot port 62, the pilot will be ignited. Because each of the combustors 14 may include a pilot port 62, each of the combustors 14 may be ignited substantially simultaneously. The pilot port 62 may be lit either before or after the oxidizer and the fuel ~~has~~ have begun to flow into the combustor 14.

[0072] In addition, during operation of the turbine 10 or the combustor 14, it may be selected, for various reasons, to provide a pilot in the combustion chamber 34. Therefore, it will be understood that the ignition system 18 may be used at any appropriate time and in any appropriate manner. The ignition system 18 allows the single ignition source in the combustion chamber 82 of the combustion wave chamber 20 to provide an ignition to each of the combustors 14 in the turbine 10 substantially simultaneously. This may be done by providing a detonation wave that propagates down the ignition lines 22 to each of the combustors 14 substantially simultaneously.

[0073] With reference to Figure 7, a detailed portion of the combustor 14, similar to the portion illustrated in Figure 3, according to various embodiments of a heat exchanger 145 is illustrated. A premix chamber 142 allows air from the

compressor to be mixed with a first portion of fuel. Air comes from the compressor and travels through a cooling fin 144 rather than through a plurality of cooling tubes 44, as discussed above in relation to the first embodiment. It will be understood that exit ports may also be formed in the cooling fins 144 to form the premix area 142. The cooling fin 144 is defined by two substantially parallel plates 144a and 144b. It will be understood, however, that other portions, such as a top and a bottom will be included to enclose the cooling fin 144. Additionally, a heat exchange or catalyst fin 148 is provided rather than heat exchange tubes 48, as discussed above in the first embodiment. Again, the catalyst fin 148 is defined by side, top, and bottom walls and defines a column 149. Each catalyst column 149, however, is defined by a single catalyst fin 148 rather than a plurality of catalyst tubes 48, as discussed above. The cooling fin 144 may include a plurality of cooling fins 144. Each cooling fin 144, in the plurality, defines a cooling pathway. Similarly, the heat exchange fin 148 may include a plurality of heat exchange 148 fins. Each, or the plurality of, the heat exchange fins 148 defines a heat exchange or catalyst pathway.